 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: LAX04LA251		Aircraft Registration Number: N110U	
		Occurrence Date: 06/28/2004		Most Critical Injury: None	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Perris	State CA	Zip Code 92570	Local Time 1439	Time Zone PDT	
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility:			
Aircraft Information Summary					
Aircraft Manufacturer SOCATA		Model/Series TB-20		Type of Aircraft Airplane	
Revenue Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:					
HISTORY OF FLIGHT					
<p>On June 28, 2004, at 1439 Pacific daylight time, a Socata TB-20, N110U, collided with a berm during a forced landing following a total loss of engine power during cruise flight near Perris, California. The pilot/owner was operating the airplane under the provisions of 14 CFR Part 91. The private pilot and four passengers were not injured. The airplane sustained substantial damage. The personal cross-country flight departed French Valley Airport, Murrieta, California, about 1400, with a planned destination of Reno, Nevada. Visual meteorological conditions prevailed, and a flight plan had not been filed. The wreckage was at 33 degrees 48 minutes north latitude and 117 degrees 25 minutes west longitude.</p> <p>During a telephone interview with a National Transportation Safety Board investigator, the pilot stated that after the initial climb, he leveled the airplane out at 10,500 feet mean sea level (msl). While configuring the airplane for cruise flight, he scanned the cockpit gauges and noticed that the oil pressure needle was in the yellow-green arc transition area, indicating a loss of pressure. He also noted that the oil warning light was flickering intermittently. He opted to return back to French Valley and contacted Ontario Approach advising them of his new itinerary. About 5 minutes after the call, the engine started to vibrate, and subsequently seized, making a loud bang. Smoke emitted from the engine and entered the cockpit area.</p> <p>The pilot further reported that the airplane began to descend about 1,000 feet per minute, and he selected a dirt field to perform an emergency landing. During the landing roll, the airplane impacted a berm; the nose gear collapsed, and the airplane came to rest on its nose. After egressing the airplane, the pilot measured the landing ground scar to be about 1,100 feet. The airplane incurred damage to the nose gear and the left wing.</p>					
PERSONNEL INFORMATION					
<p>The pilot reported that during the 90-day period preceding the accident, he had flown about 16 hours, all of which were in the accident airplane. His cumulative flying experience totaled 1,018 hours, of which 919 were in the same make and model airplane. The pilot's last flight review was satisfactorily accomplished in the accident airplane on September, 21, 2003.</p>					
AIRPLANE INFORMATION					
<p>The engine was a Lycoming IO-540-C4D5D, serial number L-22959-48A. In the Lycoming Operator's Manual, the indicated oil sump capacity for the engine is 12 quarts, with the minimum safe quantity in the sump 4 quarts. It also stated that the normal operating oil pressure should be at maximum 90 pounds per square inch (psi) and at minimum 60 psi.</p>					
FACTUAL REPORT - AVIATION					

National Transportation Safety Board

FACTUAL REPORT**AVIATION**

NTSB ID: LAX04LA251

Occurrence Date: 06/28/2004

Occurrence Type: Accident

Narrative (Continued)**TESTS AND RESEARCH****Oil Leak Documentation.**

Safety Board investigators and an investigator from Textron Lycoming, who was a party to the investigation, conducted an engine examination at Aircraft Recovery Services, Littlerock, California. The tachometer revealed a total time of 1,782.15.

Investigators attempted to drain residual oil from the engine's oil sump, but recovered no oil. They examined the engine and its accessories in an effort locate the source of the oil leak.

The engine's crankcase was cracked in numerous locations, with a hole about 3/4 inch in diameter located at the top of the crankcase, near the number 2 cylinder. Oil residue was sporadically dispersed on the exterior of the engine and on the accessory case. Investigators found no evidence of broken or disconnected hoses. The top of the engine cowling showed a concentration of oil near the firewall on the left side, which is the approximate location of the vacuum pump.

Removal of the vacuum pump, revealed an oily film on its gasket, part number AS3491-01 (seated between the vacuum pump flange and the engine accessory case flange). The film coated the lower portion of both sides of the gasket (see photographs showing the gasket). Also noted were small pieces of foreign debris on both the surface of the gasket and vacuum pump flange.

Logbooks and Maintenance History.


A review of the airplane's logbooks revealed that the vacuum pump had been installed at a tachometer time of 1,781.6, about 0.5 hours prior to the accident.


A Safety Board investigator interviewed, by telephone, an airplane mechanic at French Valley Aviation, Murrieta, the Federal Aviation Administration certified maintenance facility that performed the installation of the vacuum pump. The mechanic reported that he installed the pump with the gasket that was supplied with the pump.


The manufacturer of the vacuum pump, Rapco, Inc., supplies a gasket (part number AS3491-01) with their pump. In the TB-20 parts manual, the airplane manufacturer specifies that the gasket required is part number Z00.N7423254013, which they cross-reference with Textron Lycoming part number 8313. Despite numerous attempts, a Safety Board investigator was unable to cross-reference the gasket AS3491-01 with gasket 8313.

ADDITIONAL INFORMATION

The Safety Board investigator released the airplane wreckage to Aircraft Recovery Services on July 8, 2004.

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: LAX04LA251			
		Occurrence Date: 06/28/2004			
		Occurrence Type: Accident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation Ft. MSL	Runway Used NA	Runway Length	Runway Width
Runway Surface Type: Unknown					
Runway Surface Condition: Unknown					
Approach/Arrival Flown: NONE					
VFR Approach/Landing: Forced Landing					
Aircraft Information					
Aircraft Manufacturer SOCATA		Model/Series TB-20		Serial Number 595	
Airworthiness Certificate(s): Normal					
Landing Gear Type: Retractable - Tricycle					
Amateur Built Acft? No	Number of Seats: 5	Certified Max Gross Wt. 3100 LBS		Number of Engines: 1	
Engine Type: Reciprocating	Engine Manufacturer: Lycoming		Model/Series: IO-540-C4D5D	Rated Power: 250 HP	
- Aircraft Inspection Information					
Type of Last Inspection Annual	Date of Last Inspection 11/2003	Time Since Last Inspection 32 Hours		Airframe Total Time 1750 Hours	
- Emergency Locator Transmitter (ELT) Information					
ELT Installed?/Type Yes /		ELT Operated? Yes	ELT Aided in Locating Accident Site? No		
Owner/Operator Information					
Registered Aircraft Owner Schaeffer Industries		Street Address 3030 Dulles Dr.			
		City Mira Loma	State CA	Zip Code 91752	
Operator of Aircraft Schaeffer Industries		Street Address 3030 Dulles Dr.			
		City Mira Loma	State CA	Zip Code 91752	
Operator Does Business As:			Operator Designator Code:		
- Type of U.S. Certificate(s) Held: None					
Air Carrier Operating Certificate(s):					
Operating Certificate:			Operator Certificate:		
Regulation Flight Conducted Under: Part 91: General Aviation					
Type of Flight Operation Conducted: Personal					
<div style="text-align: center;">FACTUAL REPORT - AVIATION</div> <div style="text-align: right;">Page 2</div>					

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First Pilot Information																																																																																														
Name		City		State	Date of Birth	Age																																																																																								
On File		On File		On File	On File	50																																																																																								
Sex: M	Seat Occupied: Left	Occupational Pilot? Business			Certificate Number: On File																																																																																									
Certificate(s): Private																																																																																														
Airplane Rating(s): Single-engine Land																																																																																														
Rotorcraft/Glider/LTA: None																																																																																														
Instrument Rating(s): None																																																																																														
Instructor Rating(s): None																																																																																														
Current Biennial Flight Review? 09/2003																																																																																														
Medical Cert.: Class 2		Medical Cert. Status: Valid Medical--w/ waivers/lim.			Date of Last Medical Exam: 09/2003																																																																																									
<table border="1"> <tr> <th>- Flight Time Matrix</th> <th>All A/C</th> <th>This Make and Model</th> <th>Airplane Single Engine</th> <th>Airplane Multi-Engine</th> <th>Night</th> <th colspan="2">Instrument Actual Simulated</th> <th>Rotorcraft</th> <th>Glider</th> <th>Lighter Than Air</th> </tr> <tr> <td>Total Time</td> <td>1018</td> <td>919</td> <td>1018</td> <td></td> <td>92</td> <td></td> <td>37</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Pilot In Command(PIC)</td> <td>934</td> <td>911</td> <td>934</td> <td></td> <td>81</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Instructor</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Instruction Received</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 90 Days</td> <td>16</td> <td>16</td> <td>16</td> <td></td> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 30 Days</td> <td>2</td> <td>2</td> <td>2</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Last 24 Hours</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>							- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument Actual Simulated		Rotorcraft	Glider	Lighter Than Air	Total Time	1018	919	1018		92		37				Pilot In Command(PIC)	934	911	934		81						Instructor											Instruction Received											Last 90 Days	16	16	16		2						Last 30 Days	2	2	2		1						Last 24 Hours										
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Seatbelt Used? Yes		Shoulder Harness Used? Yes			Toxicology Performed? No		Second Pilot? No																																																																																							
Flight Plan/Itinerary																																																																																														
Type of Flight Plan Filed: None																																																																																														
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<div>FACTUAL REPORT - AVIATION</div> <div>Page 3</div>																																																																																														


 National Transportation Safety Board FACTUAL REPORT AVIATION			NTSB ID: LAX04LA251		
			Occurrence Date: 06/28/2004		
			Occurrence Type: Accident		

Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
RAL	1453	PDT	826 Ft. MSL	NM	Deg. Mag.
Sky/Lowest Cloud Condition: Clear				Ft. AGL	Condition of Light: Day
Lowest Ceiling: None			Ft. AGL	Visibility: 9 SM	Altimeter: 29.91 "Hg
Temperature: 26 °C		Dew Point: 14 °C		Weather Conditions at Accident Site: Visual Conditions	
Wind Direction: 290		Wind Speed: 12		Wind Gusts:	
Visibility (RVR): Ft.		Visibility (RVV) SM			
Precip and/or Obscuration:					

Accident Information					
Aircraft Damage: Substantial		Aircraft Fire: None		Aircraft Explosion: None	

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL	
First Pilot				1	1	
Second Pilot						
Student Pilot						
Flight Instructor						
Check Pilot						
Flight Engineer						
Cabin Attendants						
Other Crew						
Passengers				4	4	
- TOTAL ABOARD -				5	5	
Other Ground						
- GRAND TOTAL -				5	5	

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 National Transportation Safety Board FACTUAL REPORT AVIATION	NTSB ID: LAX04LA251	
	Occurrence Date: 06/28/2004	
	Occurrence Type: Accident	
Administrative Information		
Investigator-In-Charge (IIC) Van McKenny		
Additional Persons Participating in This Accident/Incident Investigation: Ron Gonzales Federal Aviation Administration Riverside, CA		
<div>FACTUAL REPORT - AVIATION</div> <div>Page 5</div>		